



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,050	07/30/2003	Samuel D. Davis	742007-1010	8192
24504	7590	10/05/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			FERGUSON, KEITH	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/630,050	DAVIS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Keith T. Ferguson	2683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,16 and 29 is/are allowed.
- 6) ☒ Claim(s) 2-6,8-13,15,17-20,22-26,28,30-34 and 36 is/are rejected.
- 7) ☒ Claim(s) 7,14,21,27 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

3

Art Unit: 2683

**DETAILED ACTION**

***Claim Objections***

1. Claim 16 is objected to because of the following informalities: claim 16, line 28, double period ".." should recite single period ".". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 33 recites the limitation "the digital radio" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2683

5. Claims 30,31,34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown.

Regarding claims 30 and 36, Brown discloses a method (fig. 7) for facilitating digital communication between a modem equipped meter and a central data acquisition system (fig. 1 numbers 101, 107 and col. 3 line 8 through col. 4 line 5), the method comprising the steps of: detecting whether the modem equipped meter is off hook (col. 3 lines 29-54); establishing a bi-directional communication pathway that relays data between the modem equipped meter and the central data acquisition system (col. 3 lines 29-54); and terminating the pathway (col. 3 line 55-58).

Regarding claim 31, Brown discloses relaying of data is facilitated by a control unit (processor) (fig. 1 number 115 and col. 5 lines 15-26).

Regarding claim 34, Brown discloses generating a dial tone to the modem equipped device (col. 3 lines 29-54); and detecting dual tone multi frequency (DTMF) from the modem equipped meter (col. 3 lines 29-54).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-6, 9-13, 17-20 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. in view of Kelley et al..

Regarding claims 2, 3, 5, 6, 9, 10, 12 and 13, Meyer et al. discloses a telemetry digital data communication system/data generation and acquisition system (fig. 1) comprising: a host site (central data acquisition system) (fig. 1 number 70); at least one first telemetry device (fig. 3 number 30) that utilizes a modem (fig. 3 number 12) for data communication (p:0047 through p:0048); and a second telemetry device (fig. 3 number 10) for at least one first telemetry device comprising: a processor (fig. 3 number 14) for communicating with the first telemetry device (fig. 3 and p:0029 through p:0030) and a radio modem (P:0038 lines 1-2) for communicating with the processor

Art Unit: 2683

and the central data acquisition system (fig. 3) (p: 0045); wherein the processor relays digital meter data from the first telemetry device to the radio modem in which the digital cellular radio facilitates transmitting the digital meter data to the central data acquisition system (p:0030). Meyer et al. further discloses the cellular modem is capable of receiving instruction data from the central data acquisition system which is relayed through the processor to the first telemetry device (p:0030). Meyer et al. differs from claims 2,5,6,12 and 13 of the present invention in that it does not explicit disclose a digital cellular radio. Kelley et al. teaches a system (fig. 1) wherein a wireless communication device may comprise a cellular telephone (col. 3 lines 25-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meyer et al. with a digital cellular radio in order for the host site to exchange meter data with radio modem within a cellular radio over a cellular network, as taught by Kelley et al..

Regarding claims 4,11,18 and 24, Meyer et al. discloses a transmit/receive cable (P:0030) two-wire communications line between the first telemetry device and processor (fig. 3 number 15).

Art Unit: 2683

Regarding claims 17,19,20,23,25 and 26, Meyer et al. discloses a remote telemetry device (fig. 3) for facilitating digital communication between a modem equipped meter and a host site (central data acquisition system) (p:0007), the remote telemetry device (fig. 3) comprising: a processor for communicating with the modem of the meter (fig. 3 numbers 14 and 16); and a radio modem for communicating with the processor and the central data acquisition device (fig. 3) (p: 0045); wherein the processor relays the digital meter data from the modem of the meter to the cellular radio in which the digital cellular radio facilitates transmitting the digital meter data to the central data acquisition system (p:0030). Meyer et al. differs from claims 17,19,20,23,25 and 26 of the present invention in that it does not explicit disclose a digital cellular radio. Kelley et al. teaches a portable computer device (fig. 1 number 12) with a cellular telephone (col. 3 lines 25-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meyer et al. with a digital cellular radio in order for radio modem within cellular radio to exchange meter data over a cellular network with the host site, as taught by Kelley et al..

Art Unit: 2683

8. Claims 8,15,22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. in view of Kelley et al. as applied to claims 2,9,17 and 23 above and in further view of Kim.

Regarding claims 8,15,22 and 28, the combination of Meyer et al. and Kelley et al. differs from claims 8,15,22 and 28 of the present invention in that they do not disclose a dial tone generator to generate a dial tone to the first telemetry device; and a dual tone multi-frequency (DTMF) digit detector to determine whether a DTMF digit was transmitted by the first telemetry device. Kim teaches the concepts of automatic meter reading wherein a system generating a DTMF signal to remote meter to read its readings (p:0024 through p:0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Meyer et al. and Kelley et al. with a dial tone generator to generate a dial tone to the first telemetry device; and a dual tone multi-frequency (DTMF) digit detector to determine whether a DTMF digit was transmitted by the first telemetry device in order for the host site to interrogate the communication module for its meter data, as taught by Kelley et al..



Art Unit: 2683

9. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Kelly et al..

Regarding claim 32, Brown discloses a method as discussed supra in claim 30 above. Brown differs from claim 32 of the present invention in that it does not disclose transmitting the data via a digital cellular radio. Kelly et al. teaches a portable computer device which transmits meter data to a remote location via a cellular telephone (col. 3 lines 25-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown with transmitting the data via a digital cellular radio in order for the residence utility meter to send meter reading wirelessly to the public utility computer which eliminates the telephone links for a faster data connection, as taught by Kelly et al..

Regarding claim 33, Brown discloses a method as discussed supra in claim 30 above. Brown differs from claim 33 of the present invention in that it does not explicit disclose dialing the digital cellular radio for communicating to the central data acquisition system. Kelly et al. teaches a laptop through a wireless modem uses its user name and password to connect to a remote location (col. 6 lines 26-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Brown with dialing the digital cellular radio for communicating to the central data acquisition system in order for the residence remote meter reader to download it meter data wirelessly to the public utility computer, as taught by Kelly et al..

#### ***Allowable Subject Matter***

10. Claims 7,14,21,27 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 7,14,21 and 27,

Art Unit: 2683

the prior art of record fails to teach or suggest, alone or in combination wherein the second telemetry device further comprises: a ring voltage generator for enabling communication with the first telemetry device; a loop current generator to maintain current flow through the two-wire data transmission line when the second telemetry device communicates with the first telemetry device; and an off-hook detector to determine whether the first telemetry device is in an off-hook condition.

Regarding claim 35, the prior art of record fails to teach or suggest, alone or in combination detecting incoming calls from the central data acquisition system; generating ring voltage to the modem equipped meter; and causing a digital cellular radio to answer the incoming calls.

12. Claims 1,16 and 29 are allowed.

13. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 1, the prior art of record fails to teach or suggest, alone or in combination a ring voltage generator for enabling communication with the first telemetry device; a loop current generator to maintain current flow through the two-wire line when the second telemetry

Art Unit: 2683

device communicates with the first telemetry device; an off-hook detector to determine whether the first telemetry device is in an off-hook condition; a dial tone generator to generate a dial tone to the first telemetry device; a dual tone multi-frequency (DTMF) digit detector to determine whether a DTMF digit was transmitted by the first telemetry device; and a digital cellular radio for communicating with the processor and the central data acquisition system.

Regarding claim 16, the prior art of record fails to teach or suggest, alone or in combination a ring voltage generator for enabling communication with the modem equipped meter; a loop current generator to maintain current flow through the two-wire data transmission line when the remote telemetry device communicates with the modem equipped meter; an off-hook detector to determine whether the modem equipped meter is in an off-hook condition; a dial tone generator to generate a dial tone to the modem equipped meter; and a dual tone multi-frequency (DTMF) digit detector to determine whether a DTMF digit was transmitted by the modem equipped meter; wherein the processor relays the digital meter data from the modem of the meter to the cellular radio in which the digital cellular radio facilitates transmitting the digital meter data to the central data acquisition system; wherein the cellular radio receives

Art Unit: 2683

instruction data from the central data acquisition system to transmit the digital meter data from the modem equipped meter, the cellular radio sending the instruction data to the processor, wherein the processor relays the instruction data and communicates with the modem equipped meter to transmit the digital meter data from the modem equipped meter.

Regarding claim 29, the prior art of record fails to teach or suggest, alone or in combination generating ring voltage to the modem equipped meter; generating a dial tone to the modem equipped device; detecting whether the modem equipped meter is off hook; detecting dual tone multi frequency (DTMF) from the modem equipped meter; dialing a digital cellular radio for communicating with the central data acquisition system; receiving instruction data from the central data acquisition system for transmitting data from the modem equipped meter; establishing a bi-directional communication pathway that relays data between the modem equipped meter and the central data acquisition system, and terminating the pathway.

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hammond (U.S. Patent 6,577,245) discloses a radio transceiver device (25) for relaying remote meter readings.

Art Unit: 2683

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith T. Ferguson whose telephone number is (571) 272-7865. The examiner can normally be reached on 6:30am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Keith Ferguson  
Art Unit 2683  
September 29, 2005

**KEITH FERGUSON**  
**PRIMARY EXAMINER**

